

isc Silicon NPN Power Transistor

BUV22

DESCRIPTION

- Low Collector Saturation Voltage-  
:  $V_{CE(sat)} = 1.0V$  (Max.) @  $I_C = 10A$
- High Switching Speed
- High DC Current Gain-  
:  $h_{FE} = 20$ (Min.) @  $I_C = 10A$

APPLICATIONS

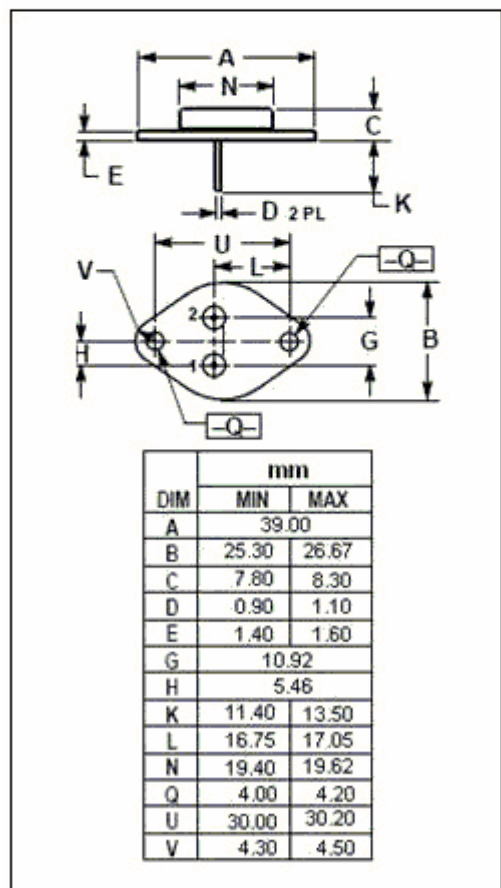
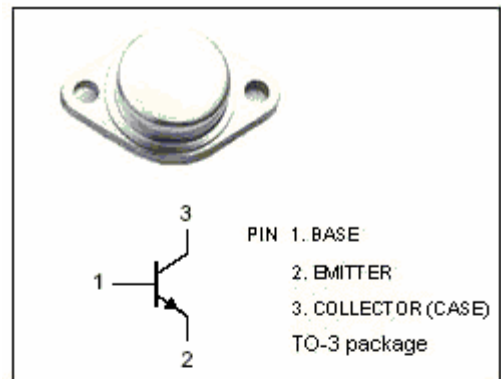
- Designed for high current, high speed, high power applications.

Absolute maximum ratings( $T_a = 25^\circ C$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	300	V
$V_{CER}$	Collector-Emitter Voltage $R_{BE} = 100 \Omega$	290	V
$V_{CEX}$	Collector-Emitter Voltage $V_{BE} = -1.5V$	300	V
$V_{CEO}$	Collector-Emitter Voltage	250	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	40	A
$I_{CM}$	Collector Current-Peak	50	A
$I_B$	Base Current-Continuous	8	A
$P_C$	Collector Power Dissipation @ $T_C = 25^\circ C$	250	W
$T_j$	Junction Temperature	200	$^\circ C$
$T_{stg}$	Storage Temperature Range	-65~200	$^\circ C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	0.7	$^\circ C/W$



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## ELECTRICAL CHARACTERISTICS

T<sub>C</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 0.2A; I <sub>B</sub> = 0; L= 25mH	250			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 50mA; I <sub>C</sub> = 0	7			V
V <sub>CE(sat)-1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 10A; I <sub>B</sub> = 1A			1.0	V
V <sub>CE(sat)-2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 20A ;I <sub>B</sub> = 2.5A			1.5	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 40A ;I <sub>B</sub> = 4A			1.5	V
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 200V; I <sub>B</sub> = 0			3.0	mA
I <sub>CEX</sub>	Collector Cutoff Current	V <sub>CE</sub> = 300V;V <sub>BE</sub> = -1.5V V <sub>CE</sub> = 300V;V <sub>BE</sub> = -1.5V;T <sub>C</sub> =125°C			3.0 12.0	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			1.0	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 10A ; V <sub>CE</sub> = 4V	20		60	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 20A ; V <sub>CE</sub> = 4V	10			
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 2A;V <sub>CE</sub> = 15V, f <sub>test</sub> = 4MHz	8			MHz

## Switching Times

t <sub>on</sub>	Turn-on Time	I <sub>C</sub> = 20A; I <sub>B1</sub> =-I <sub>B2</sub> = 2.5A; V <sub>CC</sub> = 100V; R <sub>C</sub> = 5 Ω			0.8	μs
t <sub>s</sub>	Storage Time				2.0	μs
t <sub>f</sub>	Fall Time				0.35	μs